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| 09/601,694 | 01/09/2001 | Anders Andreasson | JMYT-217 US | 8633 |

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RATNERPRESTIA
P O BOX 980
VALLEY FORGE, PA 19482-0980

EXAMINER

JOHNSON, EDWARD M

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| ART UNIT | PAPER NUMBER |
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1754

DATE MAILED: 04/25/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/601,694

Applicant(s)

ANDREASSON ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s) _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn US 4,912,776 in view of Frederiksen et al. WO 97/43528.

Regarding claims 1 and 7, Alcorn '776 discloses an SCR system for treating NO_x in exhaust gas (see column 1, lines 23-25) comprising a first (see column 3, lines 13-14) oxidation catalyst effective to convert NO to NO₂ (see column 1, lines 9-10 and 15-16; column 2, lines 7-14), a source and injection means of reductant fluid (see column 3, lines 27-31 and column 5, lines 1-10) wherein the SCR system catalysts are located both down and upstream of the injection means (see column 4, lines 26-29).

Alcorn '776 fails to disclose a particulate filter.

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Frederiksen '528 discloses a particle filter (see page 3, lines 22-25).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the particle filter of Frederiksen in the SCR exhaust gas treatment system of Alcorn because Frederiksen discloses his filter in a SCR exhaust gas treatment silencing process (see page 8, lines 15-16) to force the exhaust gas to take tortuous paths and achieve a mechanical filtering effect (see page 8, lines 1-4).

Regarding claim 2, Alcorn '776 discloses ammonia (see column 3, lines 27-31 and column 5, lines 1-10).

Regarding claim 3, Alcorn '776 discloses platinum catalyst (see column 4, lines 41-44) and a honeycomb carrier having flow passages (see column 4, lines 27-34).

Regarding claim 4, Frederiksen '528 discloses a wall-flow particle filter (see page 3, lines 22-25).

Regarding claim 13, Frederiksen '528 discloses urea (abstract).

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn '776 in view of Yavuz et al. US 6,274,107.

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Regarding claims 1 and 7, Alcorn '776 discloses an SCR system for treating NOx in exhaust gas (see column 1, lines 23-25) comprising a first (column 3, lines 13-14) oxidation catalyst effective to convert NO to NO₂ (see column 1, lines 9-10 and 15-16; column 2, lines 7-14), a source and injection means of reductant fluid (see column 3, lines 27-31 and column 5, lines 1-10) wherein the SCR system catalysts are located both down and upstream of the injection means (see column 4, lines 26-29).

Alcorn '776 fails to disclose a particulate filter.

Yavuz '107 discloses a particulate filter (see column 7, lines 6-7).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filter of Yavuz in the SCR exhaust gas treatment system of Alcorn because Yavuz discloses his filter in a process for treating exhaust gas making reference to SCR systems (page 1, abstract and publications list) to block alternate channels to pass exhaust gas through to exit the carrier structure (see column 7, lines 9-14).

Regarding claim 2, Alcorn '776 discloses ammonia (see column 3, lines 27-31 and column 5, lines 1-10).

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Regarding claim 3, Alcorn '776 discloses platinum catalyst (see column 4, lines 41-44) and a honeycomb carrier having flow passages (see column 4, lines 27-34).

Regarding claim 4, Yavuz '107 discloses a wall-flow filter (see column 7, lines 6-7).

4. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn '776 in view of Frederiksen '528 as applied to claim 1 above, and further in view of Yoshida et al. US 5,534,237.

Regarding claims 5 and 6, Alcorn '776 discloses operation at a sufficiently low temperature to convert NO to NO₂ (see abstract).

Alcorn '776 fails to disclose means to cool gases upstream of the SCR catalyst.

Yoshida '237 discloses means for sensing the exhaust gas temperature and controlling the flow of the exhaust gas to raise or lower the temperature (see column 11, lines 11-20) upstream of the exhaust gas cleaner (see column 11, lines 1-6).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the upstream temperature control of Yoshida in the SCR exhaust gas treatment system of Alcorn because Yoshida discloses his controlling in an exhaust gas cleaning system (title,

abstract) to adjust with changing driving conditions and ensure high-efficiency in cleaning of the exhaust gas (see column 11, lines 7-10).

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn '776 in view of Yavuz '107 as applied to claim 1 above, and further in view of Yoshida et al. '237.

Regarding claims 5 and 6, Alcorn '776 discloses operation at a sufficiently low temperature to convert NO to NO₂ (see abstract).

Alcorn '776 fails to disclose means to cool gases upstream of the SCR catalyst.

Yoshida '237 discloses means for sensing the exhaust gas temperature and controlling the flow of the exhaust gas to raise or lower the temperature (see column 11, lines 11-20) upstream of the exhaust gas cleaner (see column 11, lines 1-6).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the upstream temperature control of Yoshida in the SCR exhaust gas treatment system of Alcorn because Yoshida discloses his controlling in an exhaust gas cleaning system (title, abstract) to adjust with changing driving conditions and ensure high-efficiency in cleaning of the exhaust gas (see column 11, lines 7-10).

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn '776 in view of Frederiksen '528 as applied to claim 1 above, and further in view of Twigg et al. US 6,294,141.

Regarding claim 8, Alcorn fails to disclose a light duty diesel engine.

Twigg '141 discloses a light duty diesel engine (see abstract).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light duty diesel engine of Twigg with the SCR exhaust gas cleaning system of Alcorn because Twigg discloses his light duty diesel engine in a catalytic emission control system since light diesels operate at appreciably lower temperatures (see column 1, lines 39-40) and to increase the engine operating envelope and economy, and to deal with soot (see column 1, lines 45-48).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn '776 in view of Yavuz '107 as applied to claim 1 above, and further in view of Twigg '141.

Regarding claim 8, Alcorn fails to disclose a light duty diesel engine.

Twigg '141 discloses a light duty diesel engine (see abstract).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light duty diesel engine of Twigg with the SCR exhaust gas cleaning system of Alcorn because Twigg discloses his light duty diesel engine in a catalytic emission control system since light diesels operate at appreciably lower temperatures (see column 1, lines 39-40) and to increase the engine operating envelope and economy, and to deal with soot (see column 1, lines 45-48).

Allowable Subject Matter

8. Claims 1 and 7 would be allowable if rewritten in independent form to include (disclosed in the instant specification on page 3, last paragraph), at the end, the following: --and wherein the SCR catalyst comprises a $V_2O_5/WO_3/TiO_2$ catalyst, supported on a honeycomb through-flow support--.

9. The following is a statement of reasons for the indication of allowable subject matter: It would not have been obvious to one of ordinary skill in the art at the time the invention was made to include a $V_2O_5/WO_3/TiO_2$ catalyst, supported on a honeycomb

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through-flow support in the SCR catalyst of the instant claims 1 and 7.

Response to Arguments

10. It is argued that the Office Action suggests... Alcorn '776. This is not persuasive because Frederiksen is not considered to "destroy" the intended function of the prior art simply because the references teach various possible orders in which the elements of the invention may be arranged, as Applicant appears to suggest and also because Frederiksen is not relied upon for the recitation cited by Applicant. Further, various combinations of order still remain possible within the instantly claimed invention. For example, the instantly claimed injection means could be arranged between the oxidation and SCR catalysts or after both.

It is argued that moreover, if one were to make the combination... in this embodiment. This is not persuasive because Frederiksen discloses the oxidation catalyst as "first", which would obviously, to one of ordinary skill, suggest placing it before the injection means (see column 3, lines 13-14), as claimed.

It is argued that for completeness, the applicants note... or (C). This is not persuasive because Frederiksen discloses the oxidation catalyst as "first", which would obviously, to one of

ordinary skill, suggest placing it before the injection means (see column 3, lines 13-14), as claimed.

It is argued that in sum, the amended claims recite... injection means. This is not persuasive for the reasons above.

It is argued that Yavuz '107 discloses an oxidation catalyst... of the exhaust. This is not persuasive because Yavuz is not relied upon for a disclosure of SCR catalyst, which is disclosed in Alcorn. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). And, in any case, Yavuz discloses his filter in a process for treating exhaust gas making reference to SCR systems (publications list on page 2) to block alternate channels to pass exhaust gas through to exit the carrier structure (see column 7, lines 9-14).

It is argued that moreover, the manner in which Yavuz '107... is not obvious. This is not persuasive because Applicant appears to admit that Yavuz discloses the claimed filter, arguing only that the disclosure is made "in passing", which is considered sufficient to enable one of ordinary skill in the art to practice the claimed invention by the Examiner. Further, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filter of Yavuz in the SCR exhaust gas treatment system of Alcorn because Yavuz discloses his filter in a process for treating exhaust gas making reference to SCR systems (page 1, abstract and publications list on page 2) to block alternate channels to pass exhaust gas through to exit the carrier structure (see column 7, lines 9-14).

It is argued that relevant to both rejections... the present invention. This is not persuasive because the newly added limitations are disclosed or suggested as specified in the new grounds of rejection (see above).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is

reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 703-305-0216. The examiner can normally be reached on M-F 6:30-4:00.

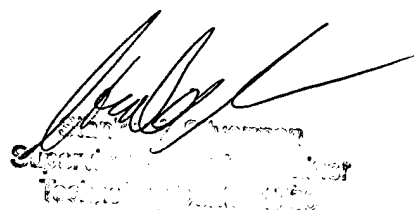
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EMJ

April 22, 2003

A handwritten signature in black ink is written over a rectangular official stamp. The signature is stylized and appears to be "A. J. [unclear]". The stamp contains some text, including "Supervisor" and "Patent Office", but it is mostly obscured by the signature.